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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/429,283	10/28/1999	SHUICHI UENO	0057-2534-2Y	5740

7590 12/18/2001

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EXAMINER

FOURSON III, GEORGE R

ART UNIT	PAPER NUMBER
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2823

DATE MAILED: 12/18/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/429,283

Applicant(s)

UENO ET AL.

Examiner

George Fourson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2001 and 01 October 2001.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 14-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Japanese Patent 4-157766, Gardner et al '849, Choi '330, Chou et al (1997 IEEE), Kuroi et al (J. Appl. Phys. 1995) and Sze, newly cited.

The rejection is maintained as stated in the paper mailed 7/24/01 and as follows.

Applicant traverses the assertion that the process of formation of a capacitor connected to a source/drain region of a MOSFET to form a DRAM structure was known at the time of applicant's invention. In response, Sze discloses the process to have been known at the time of applicant's invention (pp. 493 and 494). The rejection is now based in part on the cited portion of Sze.

In response to the argument bridging pages 2 and 3 of the response filed 8/28/01, Japan '766 is not relied upon as teaching implanting nitrogen into different gates at different non-zero amounts but instead for the teaching of selective implantation of nitrogen into a transistor gate material.

In response to the argument on page 3 of the response filed 8/28/01, all transistor gates in region 112 would contain the same concentration of p-type dopant due to the blanket implantation and some transistor gates would contain additional dopant due to the selective implantation, as stated in the office action mailed 7/24/01.

Applicant argues that Gardner et al does not disclose formation of plural devices. However, the reference discloses forming a photoresist layer to cover any or all of the gate to adjust the threshold voltage and that it might be desirable to form IGFET's in critical signal paths to have a lower threshold voltage than other IGFET's in the circuit (col.10, lines 20-25) and that although one device has been shown it is

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understood that in actual practice many devices are fabricated on a single semiconductor wafer as is widely practiced in the art (col.12, lines 1-11), as stated in the office action mailed 7/24/01.

In response to applicant's argument regarding Chou, the reference is not relied on as teaching implanting dopant into different gates at different non-zero amounts but instead for the teaching of the effects of different dopant concentrations on MOSFET performance.

Applicant argues that Kuroi et al does not disclose the effects of nitrogen concentration in a gate in relation to dopant concentration. However, the x-axis of the pointed to figures 2 and 3 denotes dopant concentration.

Applicant's arguments that the references do not individually disclose the entire invention are unpersuasive because the rejection is based on the combined teachings of the references as stated in the office action mailed 7/24/01.

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

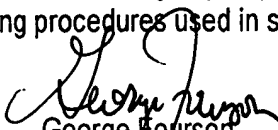
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956. See MPEP 203.08.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner George Fourson whose telephone number is (703) 308-2544. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax number for this group is (703)308-7722( 7724,3431 and 3432). MPEP 502.01 contains instructions regarding procedures used in submitting responses by facsimile transmission.

  
George Fourson  
Primary Examiner  
Art Unit 2823

GFourson  
December 16, 2001